COMPACT MIXER

MM1705a

USER'S MANUAL

PHONIC

www.phonic.com

SAFETY PRECAUTIONS!

WARNING - TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE.

Do not allow water or liquids to be spilled into this unit. If the unit has been exposed to rain or liquids, please unplug the power cord immediately from the outlet (with DRY HANDS) and get a qualified service technician to check it. Keep this unit away from heat sources such as radiators, heat registers, stoves, etc. that produce heat.

The unit contains no user-serviceable parts. Refer all servicing to a qualified service engineer through a Phonic dealer.

This triangle, which appears on your component, alerts you to the presence of uninsulated " dangerous voltage" inside the enclosure that may be sufficient to constitute a risk of shock.

This triangle, which appears on your component, alerts you to important operating and maintenance instructions in this accompanying literature.

CAUTION:
TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER ALL SERVICING TO QUALIFIED SERVICE PERSONNEL.

Keep this unit clean by using a soft dry brush and occasionally wiping it with a damp cloth. Do not use any other solvents, which may cause damage to paint or plastic parts. Regular care and inspection will be rewarded by a long life and maximum reliability.

Your Phonic MM1705 was carefully packed in the factory and the packing box was designed to protect the unit from rough handling. We recommend that you carefully examine the packaging and its contents for any signs of physical damage, which may have occurred in transportation.

If the unit is damaged: ***Notify your dealer and the shipping company immediately.*** Claims for damage or replacement may not be granted if it is not reported properly or in a timely manner.

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Phonic reserves the right to improve or alter any information supplied within this document without prior notice.

V1.1 Nov. 19, 2002

INTRODUCTION

Congratulations on your purchase of the MM 1705a Mixer. The MM 1705a is built of rugged construction, it can be mounted on a standard 19-inch ack, which is ideal for both touring and fixed PA installations. In order to get the best performance from the MM 1705a, please read this user manual carefully, and retain it for later reference. If you ignore the manual and directly jump into the unknown, something might happen and makes a fool out of you. Please, at least find out what things are different about this mixer and check if you are familiar with all its features even if you are an experienced mixer board user.

FEATURES

- 5 balanced microphone/line input channels, two with insert points
- 3 stereo line input channels
- 2 stereo line returns
- 2T input and recording output
- 1 aux and 1 effect mix send
- 3 band EQ for each line input channels
- PFL for input, AFL for output
- 60mm high quality linear faders
- Dual 13-segments LED level meter
- 2 audio groups
- Stereo main output
- Mono main output
- +48V phantom power
- -20/PFL, PEAK indicators on each input channel
- AUX SND can be set in PRE or POST fader
- Low cut filter on each mono input channel

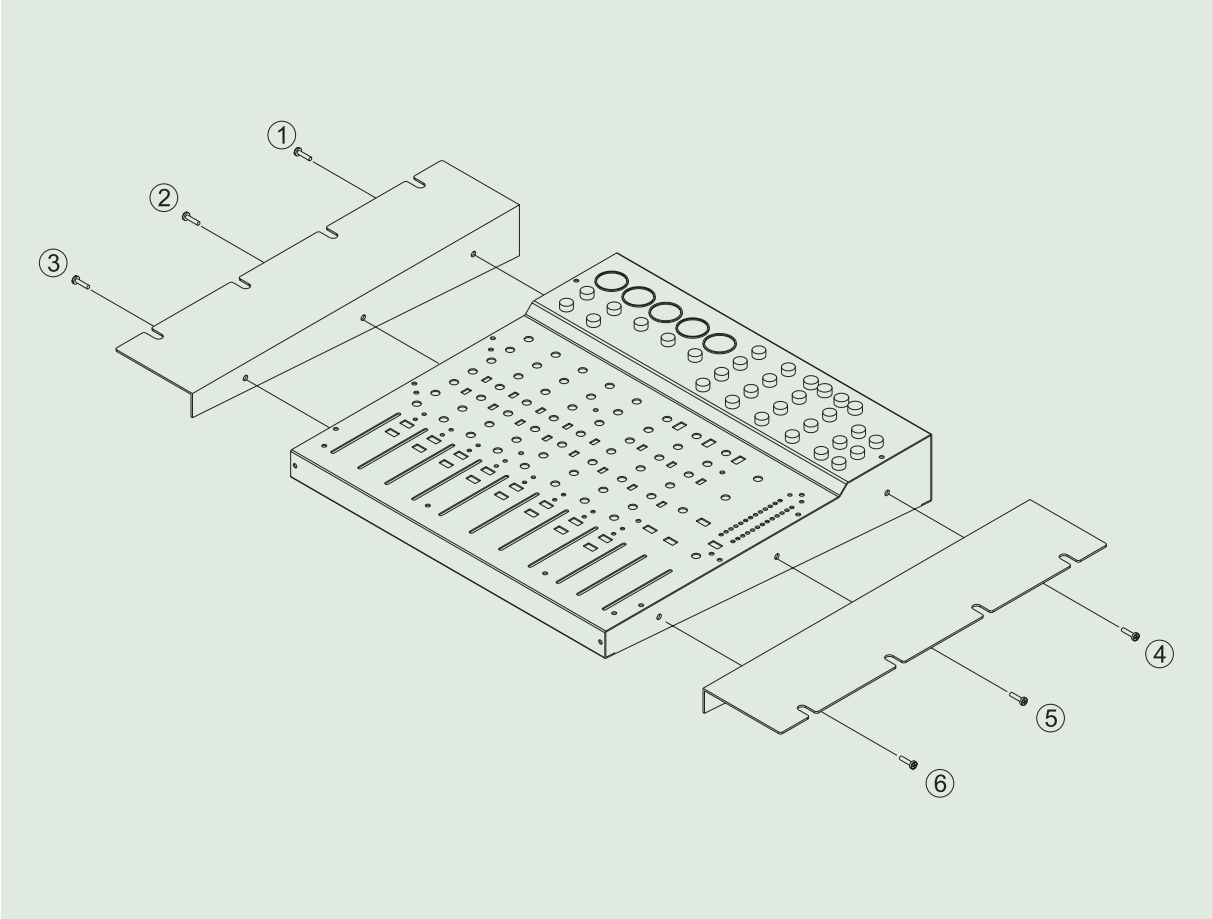
GETTING STARTED

1. Check the AC voltage before connecting the plug. This product is equipped with a 3-wire grounding type plug; this is a safety feature and should not be defeated. Proper grounding must be practiced to prevent electrical shock to the operator, the microphone user, and any musicians whose instruments are wired to this unit. Choose the main supply for the sound system with care, and do not share sockets or earthing with light dimmers.
2. Position the mixer where the sound can be heard clearly; preferably with the audience.
3. Run audio cables separately from dimmer wiring, using balanced lines wherever possible. If necessary, cross audio and lighting cables at right angles to minimize the possibility of interference. Keep unbalanced cabling as short as possible.
4. Check your cables regularly and label each end for easy identification.
5. Before switching on the main power, keep all the output faders all the way down to prevent damage or excessive noise caused by bad level adjustment, wrong wiring, defective cables,or bad connections.
6. Always turn on the MM1705a mixer before the power amplifier; turn off the MM1705a mixer after turning off the amplifier.
7. Always turn off the power before connecting or disconnecting the unit.
8. Never use solvents to clean the unit. Clean with a soft, dry cloth.

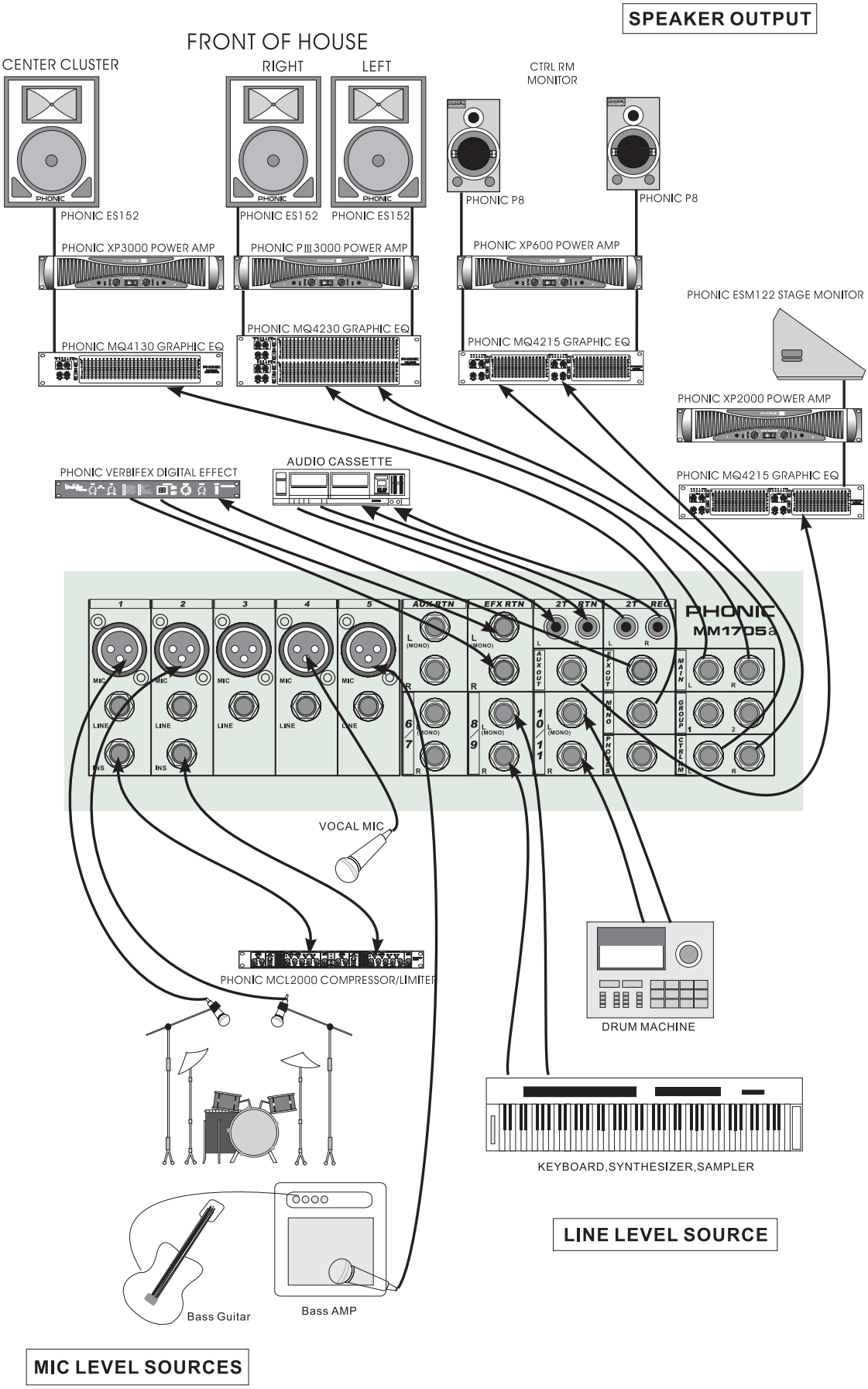
CONVERTING TO RACKMOUNT MODE

There is an option to meet the requirements of the engineer who prefers to use a mixer that is installed on a standard 19" rack. It is simple to install the rack mount kit by the following procedure:

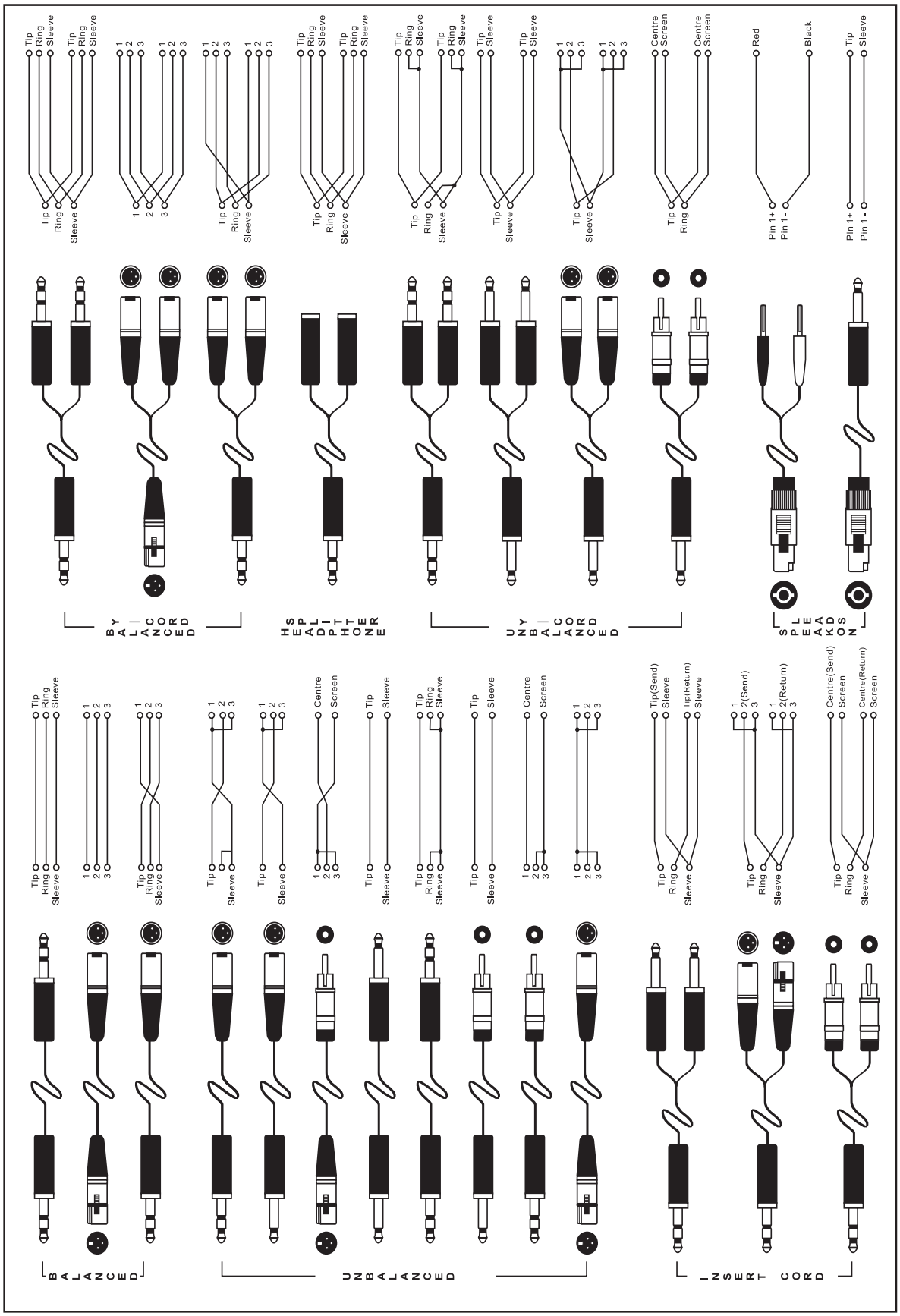
1. Install the rack mount kit with the 6 screws numbers 1-6.
2. Install the mixer on the rack.



CONNECTING IT UP



TYPICAL CONNECTING LEADS



UNBALANCED & BALANCED

Unbalanced & Balanced Connection

Most of the mistakes in audio installations are because of incorrect and defective audio connections. In order to perfectly complete your installation; please pay special attention to the following section unless you are already familiar with balanced/unbalanced operations.

What is an unbalanced system?

You can find this kind of system in most of home audio-video systems. They have one conductor to carry the signal, and another conductor for a ground. Normally, for lower level signals, the ground conductor shields the signal conductor.

What is a balanced system?

A balanced system transmits the signal via 2 conductors plus one ground shielding conductor. The 2 signal conductors carry the same signal but out of phase. For the balanced input stage, the amplifier will boost the difference of the 2 signal conductors and remove the identical part (known as common mode signal) of the 2 signals . Because the real signal is carried by the 2 conductors out of phase, so it is perfectly carried to the input. At the same time, interference that occurs during transmission will be identical (common mode). Because the signal conductors are run together, there is no chance they can be different, and all the interference will be removed by the balanced input amplifier.

The difference between 2 operations:

Because of the common mode interference immunity of a balanced system, the ground conductor doesn't need to carry any electrical current, which means the ground of the 2 connected units has an identical ground level which is vital to an interference free system. Let's look back to the unbalanced system. The signal electrical current goes from the signal conductor to the ground conductor, and that means the ground level of the 2 connected units are not identical. This means the system is much easierto experience noise interference.Running long cables is easy for a balanced system but difficult for an unbalanced system, and lower noise levels are a constant characteristic of a balanced system. Because a balanced system needs 2 conductors for the signal and 1 conductor for the ground, a minimum of 3 conductors are needed for wiring a balanced system. So a dedicated system separates the ground and shields the 2 conductors.

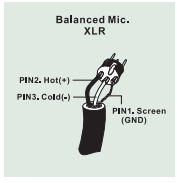
Please read following section for properly wiring balanced and unbalanced systems:

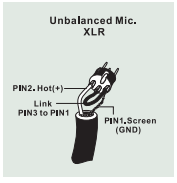
The Correct Wiring for Balanced Operation

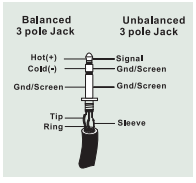
Always connect the main power with 3 plugs. Make sure the power system ground is working properly. Don't use a ground insulator plug adapter without properly connecting the ground individually. This is vital to making a successful audio system connection.

Always connect the ground pin (PIN 1 in XLR) to the source unit, and disconnect this pin on the destination unit. This connection topology is to avoid creating a grounding loop between the signal and power ground. Utilize only the power ground, because it always has a lower resistance and better distribution than the signal ground.

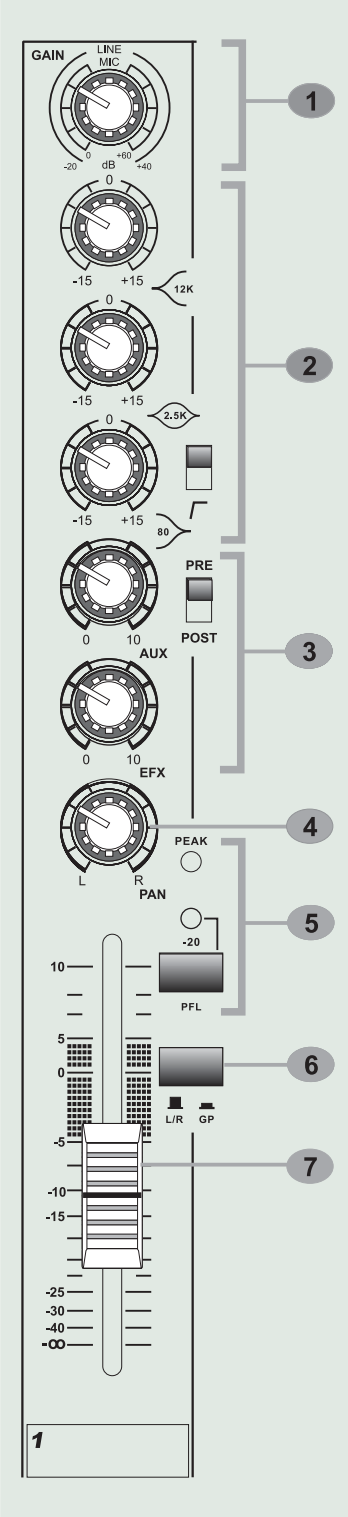
If there is hum, a possible reason is a bad ground connection for the system. In case you can not find the fault, try connecting the ground pin of the input connectors. If the hum is reduced or eliminated, check your power grounding system. Special attention is needed when you use the equipment racks with some distance between them, and/or use a large quantity of power amplifiers. Check the power ground between the racks and power distribution strips with your electrical supply engineer. Make sure there is one, and only one, proper ground point for the audio system (or connected video system).







CHANNEL STRIP DESCRIPTION



Two inputs are available to the mono input channel, via an XLR connector (normally for microphone sources) or a 3-pole 1/4" phone jack for higher level signals such as keyboards, drum machines, synths or tape machines. Both input sockets are permanently active, and may be used by simply plugging the source into the required input. You do not need to unplug something from the mic socket if you want to use the line input. When both the microphone and line signals are plugged into any channel from CH1 to CH5, then the circuit will automatically be switched to line source.

An unbalanced INSERT is offered which is a break point in the input channel signal path. It allows the signal to be taken out of the mixer, through an external device and then brought back into the console to continue through to the final output. The insert is a 3-pole 1/4" phone jack, which is normally by-passed. When a jack plug is inserted, the signal path is broken at a point just after the high pass filter, but before the EQ section. The signal from the channel appears on the TIP of the phone plug and is returned on the RING. The insert point allows compressors, limiters, effect and other signal processing units to be added as required to particular input channels and because it is located PRE EQ, noise generated by the external equipment may be reduced by a high frequency cut of 15dB in the equalizer. Only channel 1&2 feature with inserts.

1 GAIN

This rotary knob adjusts the channel signal level. Too high, and the signal will distort as it overloads the channel. Too low, and the level of back hiss will be more noticeable and you may not be able to get a high enough signal level to the output of the mixer. Proper gain or gain settings allow the mixer to work at the best operating level. Adjust the gain when there is a signal present to the highest level without triggering the peak LED. That is the most appropriate position.

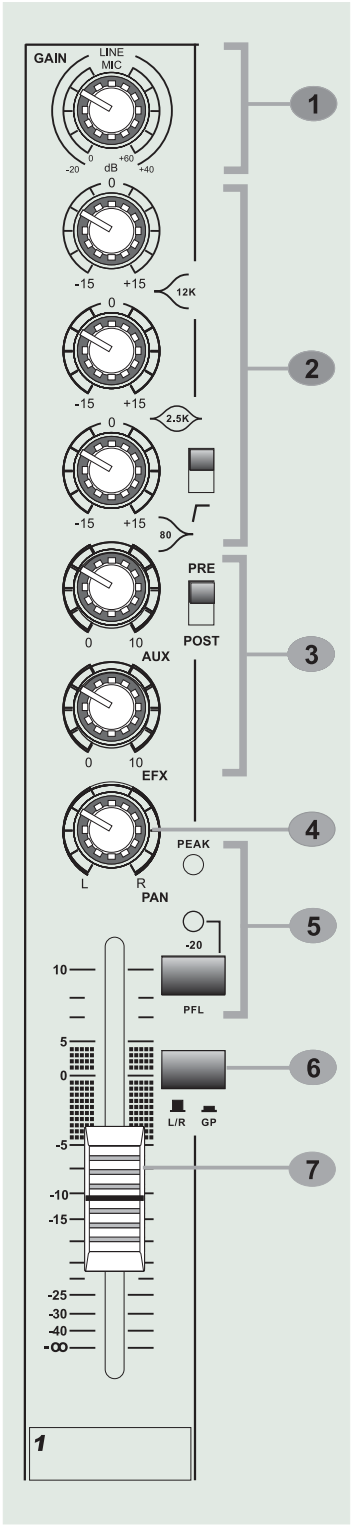
This gain adjuster has two indications to match either a microphone or line input signal. When you use the microphone input, please refer to the inside ring from 0~+60 dB; but when you use line input, please refer to the outside ring from -20~+40dB.

If you use a condensor microphone, it is required to send phantom power to it. The global phantom power switch is located on the rear panel.

All faders (Group 1, Group 2, Mono, L/R and CH1~11) should be all the way down when you switch on the phantom power. In order to prevent excessive noise to stage monitor speakers and main speakers, phantom powered mics should be plugged in after the phantom power is switched on.

2 EQUALIZERS

These equalizers are designed to suit different room acoustics, control feedback and improve the live PA sound. No amount of equalization will correct the frequency response curve of a poor loudspeaker. Always begin with all controls in the "0" position and avoid excessively cutting/boosting large seg-



ments of any particular frequency, which will limit the system's dynamic range or increase the possibility of an unpleasant feedback sound.To make sound more impressive, a dynamic process is necessary. Channel inserts are designed to add-on a compressor, limiter or gate. Please refer to Phonic PCL3200 or MCL2000 for further information.

HIGH

Each input channel of the MM1705 has a three-band EQ. Turn the HIGH to the right to boost high frequency, adding crispness to cymbals, vocals and electronic instruments. Turn to the left to cut this frequency, reducing sibilance or hiss. The control has a shelving response that gives 15dB of boost or cut at 12KHZ.

MID

This knob provides 15dB of boost and cut at 2.5k Hz, similar to the High EQ knob.

LOW

The control has a shelving response that gives 15dB of boost or cut at 80Hz. Add warmth to vocals or extra punch to guitars, drums and synths by turning to the right. Turn to the left to reduce stage rumble, hum or to improve a mushy sound.

LOW CUT (CH1~5 only)

Slide down the dip-switch, insert the 18dB per octave 75Hz low cut filter in the signal path. This low cut filter is useful with live vocals to reduce stage rumble or popping from Mics. It can also be used to cut off low frequency hum.

3 AUX / EFX SECTION

These rotary faders send out the input channel signal to AUX or EFX buses. These are used to set up separate mixes for a foldback system and external processing machines and recording.The AUX send can be set as either pre-fader (so that the aux send is independent from the fader, which is suitable for foldback or monitor) or post-fader (which is suitable for the processor unit; the effect signal will fade up and down with the fader). PRE or POST AUX signal is selected by a push button.

The EFX send is always post-fader and both AUX Send and EFX send are post EQ.

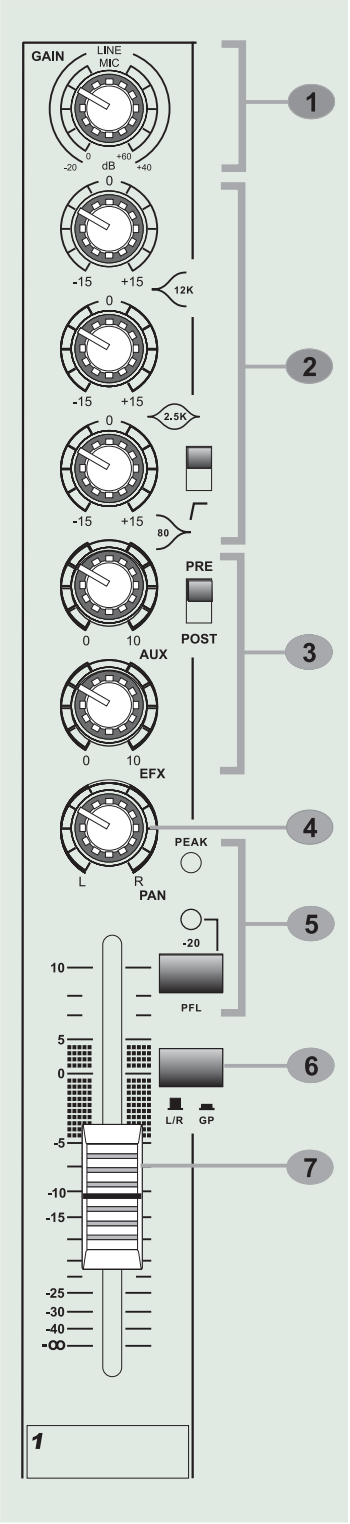
4 PAN

This control sets the amount of the channel signal feeding the left and right mix buses, and allows you to locate the source smoothly across the stereo image. When the control is turned fully right or left, you are able to route the signal to either left or right output.

5 PEAK / -20 / PFL

PEAK

The LED indicators light up when an excessively high signal level is present in the channel. In general, Input level should be set to the level where the LED flashes briefly on the loudest peaks only, if it flashes continuously, turn the input control down slightly. This ensures the best possible signal-to-noise ratio and dynamic range.



-20

The LED will come on if the channel receives a signal input higher than -20 dBu. Both the -20 dBu and the PFL share the same indicator.

PFL

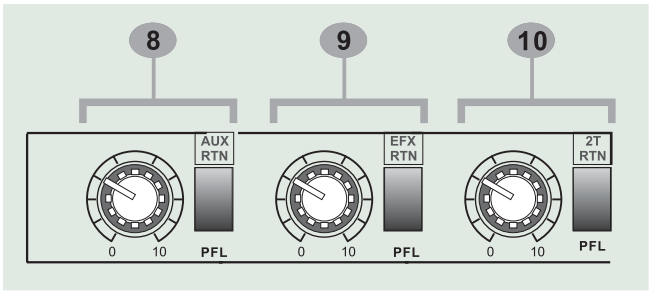
Pre-Fader-Listening, when the PFL switch is pressed, the pre-fader signal will be fed to the control room/ headphone output, where it replaces the selected monitor source. PFL is very useful for a mixing engineer to monitor individual channels without affecting the main mixes, for making adjustments or tracing problems.

6 L/R OR GP (ROUTING SWITCH)

The input channel signals may be routed in stereo to the main output (L/R) or pairs of Group busses (1-2), by pressing the routing button. The PAN will also affect the signal route. Turning extremely left can only feed Group 1 and extremely right only feed Groups 2.

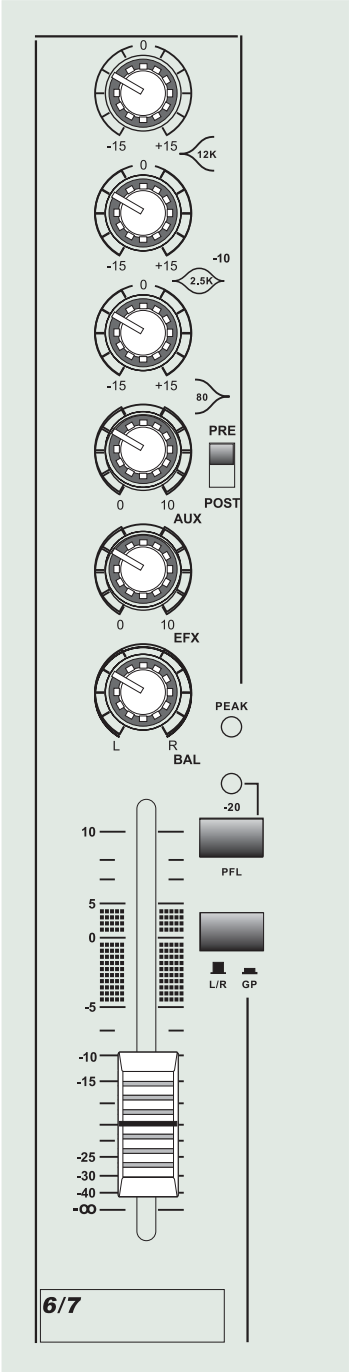
7 CHANNEL FADER

A long-throw 60mm linear fader determines the proportion of the channel in the mix and provides a clear visual indication of channel level.



STEREO CHANNELS 6-11

These 3 stereo input channels are designed for a stereo line level signal, from a stereo source such as keyboards, drum machines, synths, hi-fi equipment or DAT players. They have the same function as mono channels except for GAIN setting and balance adjustment. These high impedance inputs accept 2-pole phone jacks. Use these inputs for keyboards, drum machines, synths, tape machine or processing units. If the source signal is mono please plug into the left channel socket only. All of functions are the same with the mono input channel strip.



8 AUX RTN

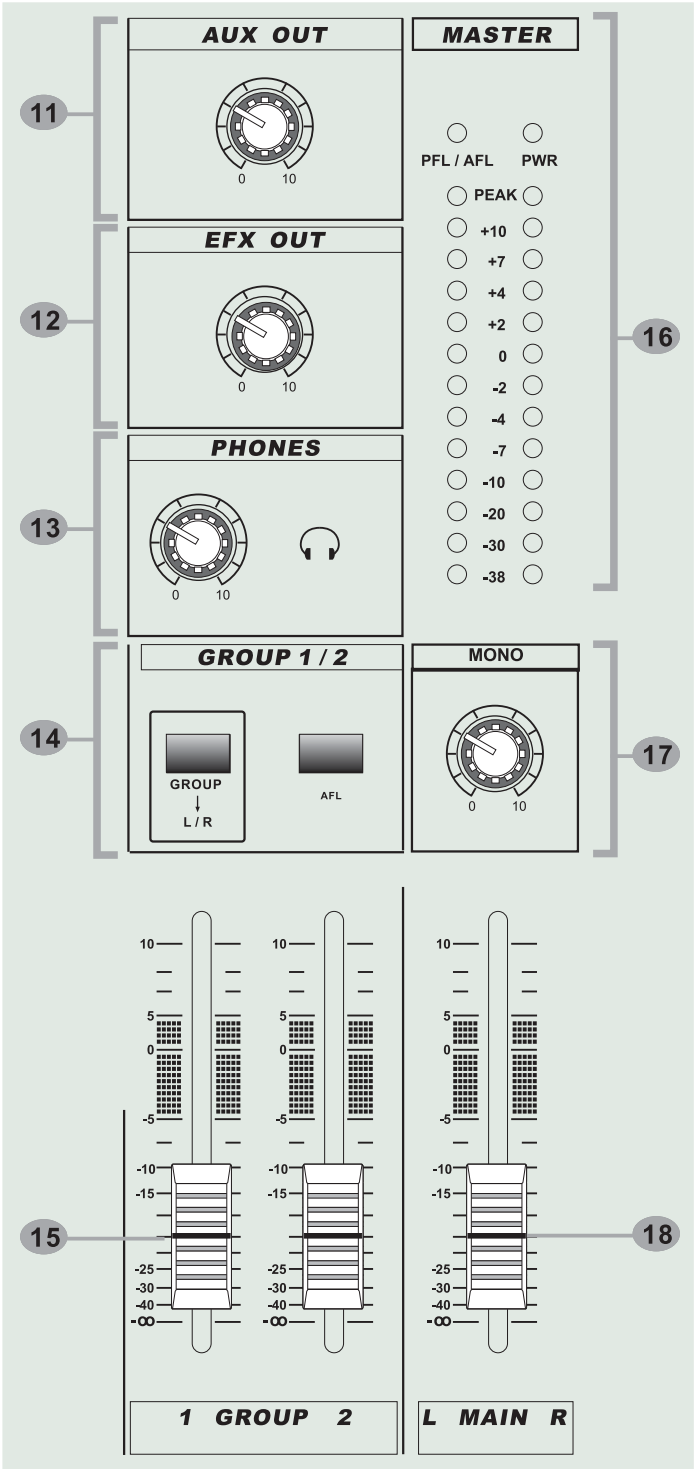
The AUX RTN control section includes one knob and one PFL push button. The knob controls the AUX RTN level. When you would like to monitor the signal of AUX RTN, simply depress the PFL button, the input signal will be fed into CTRL RM.

9 EFX RTN

The EFX RTN control section includes one knob and one PFL push button. The knob controls the EFX RTN level. When you would like to monitor the signal of EFX RTN, simply depress the PFL button, the input signal will be fed into CTRL RM.

10 2T RTN

This knob controls the level sent to the master L/R. When you would like to monitor the signal from the 2T RTN, simply depress the PFL button, the input signal will be fed into CTRL RM.



MASTER SECTION DESCRIPTION

11 AUX OUT

This control routes a mono sum of the input channel signal to the AUX bus. It is separate from the master L/R outputs and can therefore build additional mix output for the stage monitor, effect unit or extra loudspeakers.

12 EFX OUT

This control routes a mono sum of the input channel signal to the EFX bus. It is separate from the master L/R outputs and can therefore build additional mix output for the effect unit.

13 PHONES

This knob controls the CTRL RM/headphones level output.

14 GROUP TO L/R & AFL

GROUP TO L/R

You can assign the GROUP 1/2 signal to MAIN L/R. If you depress the L/R or GP button of any input channel then the input signal will be fed to GROUP 1/2. Moreover, if you would like the input channel signal to be mixed by the MAIN L/R, then it is nessary to depress the GROUP 1/2 to L/R button.

AFL

This AFL button can send the GROUP 1/2 signal to CTRL RM or PHONES for monitoring; this signal will then be affected by GROUP 1/2 faders.

15 GROUP 1/2 FADER

A long-throw 60mm linear fader determines the proportion of the group signal in the mix and provides a clear visual indication of channel level.

16 MASTER DISPLAY

This blue PWR LED will light when the power is on.When you would like to monitor any input channel or output signal, depress its PFL button , or its AFL button in GROUP, and the master level meter will show you the signals which you have chosen. In addition, the green PFL LED indicator will light up.The 13-segment LED meter shows the level of master mix L and R in the stereo mode.

17 MONO LEVEL CONTROL

The MONO output signal mixes the pre-fader signal of the MAIN L/R. You can use this signal as the center cluster or apply it to another area. This knob controls the level of the mono mix output.

18 MAIN L/R OUTPUT FADER

These 60mm long faders adjust the output level of the MAIN L/R.

REAR PANEL DESCRIPTION

18 PHANTOM POWER SWITCH

A +48V global Phantom Power master switch located in the rear panel, available for condense microphone on each microphone input channel. All faders (CH1~11, Group 1, Group 2, L/R and MONO) should be all the way down when this phantom power is switched on. In order to prevent excessive noise to stage monitor speakers and main speakers, you should not have condensor microphones pluged in when the +48V master switch is on.

19 POWER SWITCH

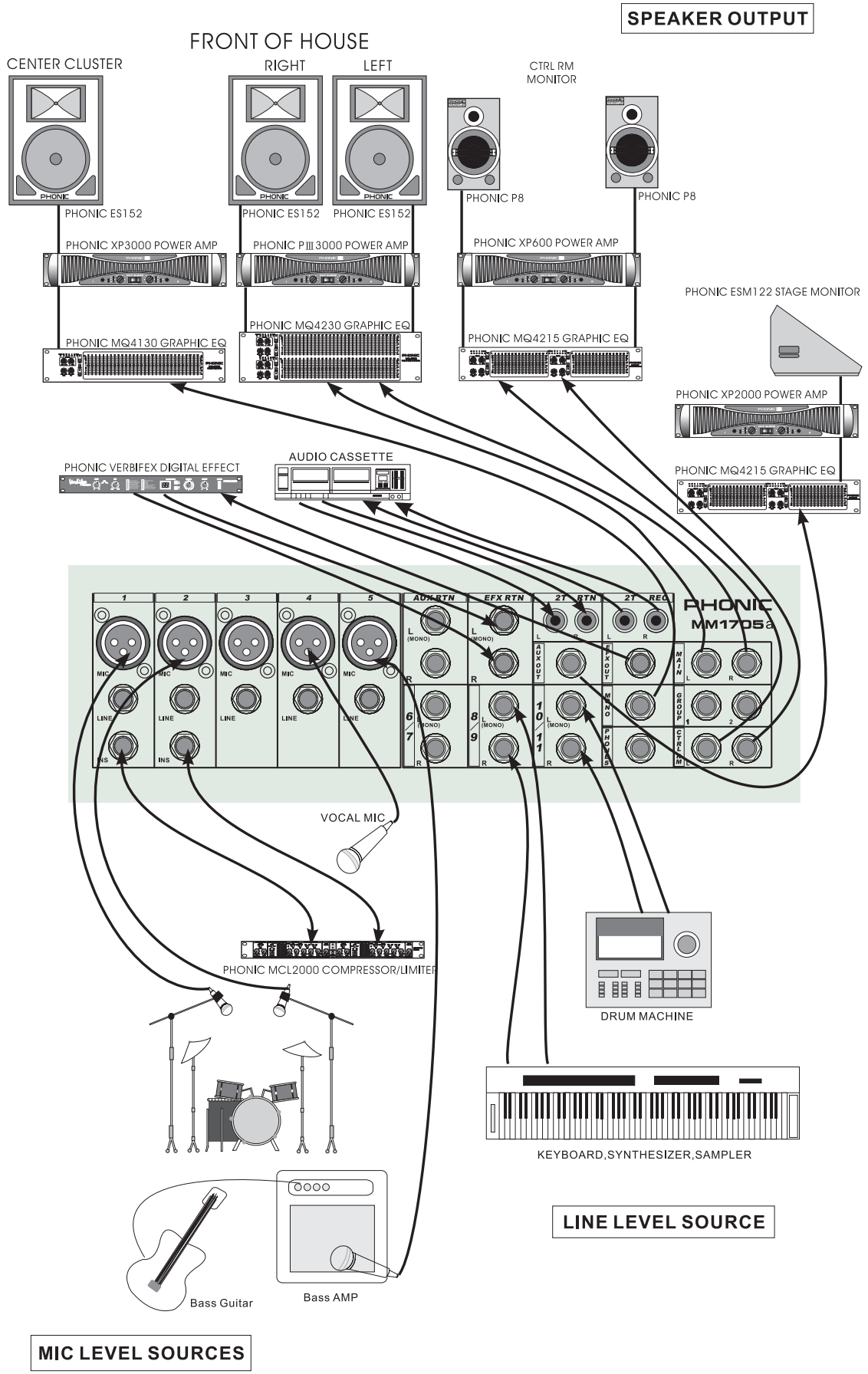
Before you turn on the power switch, please pull down all the faders to the bottom to prevent unwanted transient high level signals from destroying your audio system. The power on LED will light up in the display section when you turn on the power switch. The description beside the power socket tells you the part number of power supply adaptor for your local main power.

INITIAL SET UP

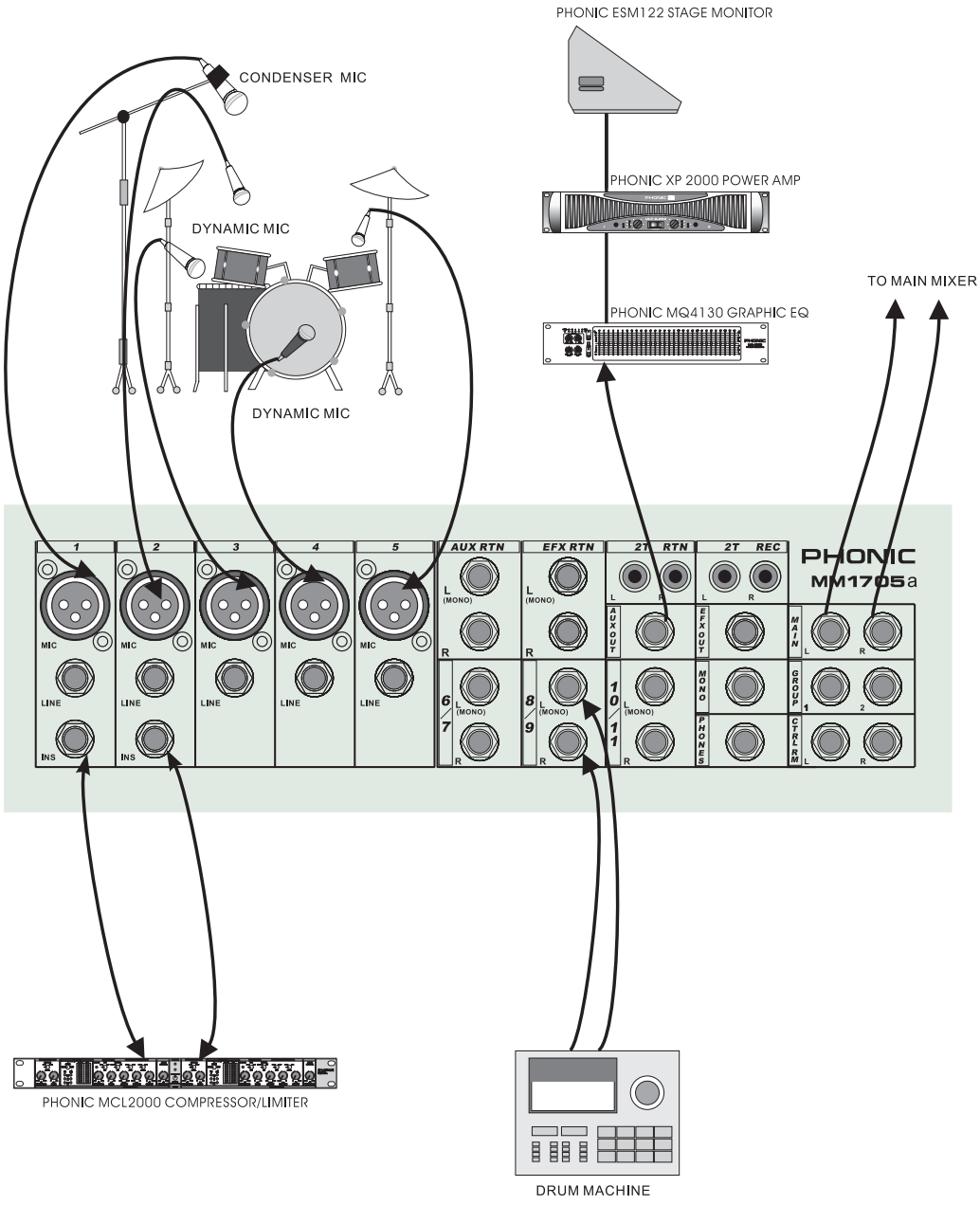
This procedure is very important. **Even if you don't like to read manuals, please read this section.** After you connect up the system, you are ready to set the initial set up for every input channel. The matching of every input trim to the signal source is crucial; every detail will affect the final output of the mixer. Basically, the input sensitivity adjustment for the channel fader and output fader are the main factors. You should try to set only as much microphone trim as required to achieve good balance between signals. If the input trim is set too low, you will not get enough gain on the faders to push the signal up to an adequate level. If the input trim is set too high, the channel fader will need to be pulled down in compensation, but it leaves a greater risk of feedback because small fader movements will have a very significant effect on output level. Certainly, the limited fader travel path will not be successful in the mixing procedure. Please use the following set up procedure. Don't use the old way: turning the output up until they clip and then backing off.

- Set all faders and trim controls all the way off.
- Any condenser microphones should be connected before the +48V phantom power is switched on.
- Set power amplifier levels to 70%.
- Set the Headphones level to about 50%.
- If you want to hear what you're doing later, plug your headphones into the phones output socket.
- Depress the MUTE button.
- Push in the PFL button.
- Set EQ control to the center position.
- Set PAN and BALANCE knobs to the center position.
- You need headphones to continue.
- Apply a typical performance level signal, monitoring the level on the LED meter. Adjust the input trim until the meter shows around the 0dBu position, with occasional peaks to the first red LED at maximum source level. This allows enough headroom to accommodate peaks and the maximum level for normal operation. You can listen to them through your headphones.
- For microphone sources, the gain control adjustment will depend on what kind of microphone you use, normally turn the trim clockwise to 2~3 o' clock. But please ask the singer to perform outloud, don' t whisper, if they do not sing at a normal level while you' re doing the sound check, you might drive the mixer to overload or produce feedback, because you set the gain too high during the initial set up.
- Repeat this procedure on all other channels. When more channels are added to the mixer,the LED meters may move up to the red section, adjust the overall level using the master faders if necessary.

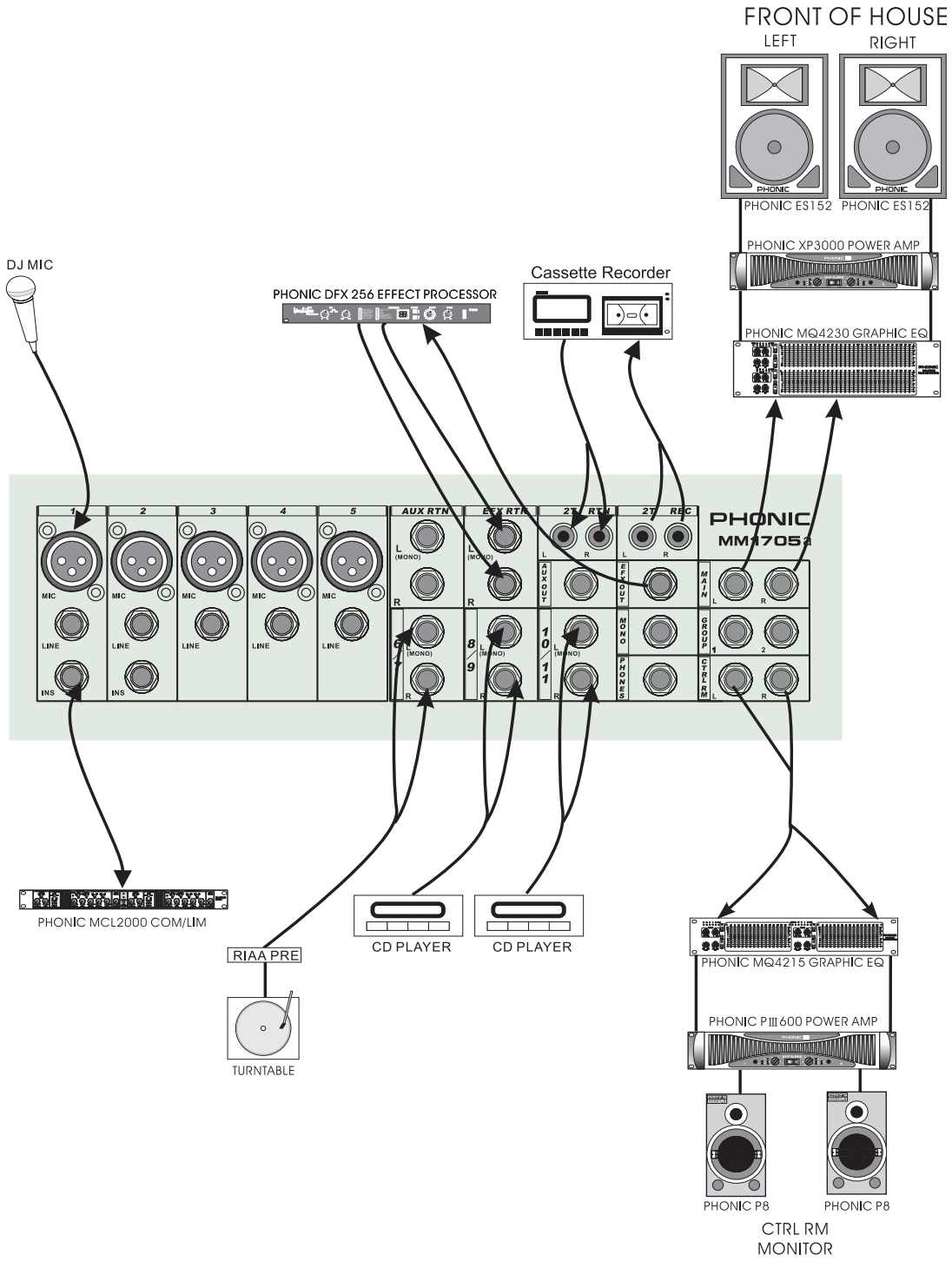
APPLICATION1: LIVE SOUND REINFORCEMENT

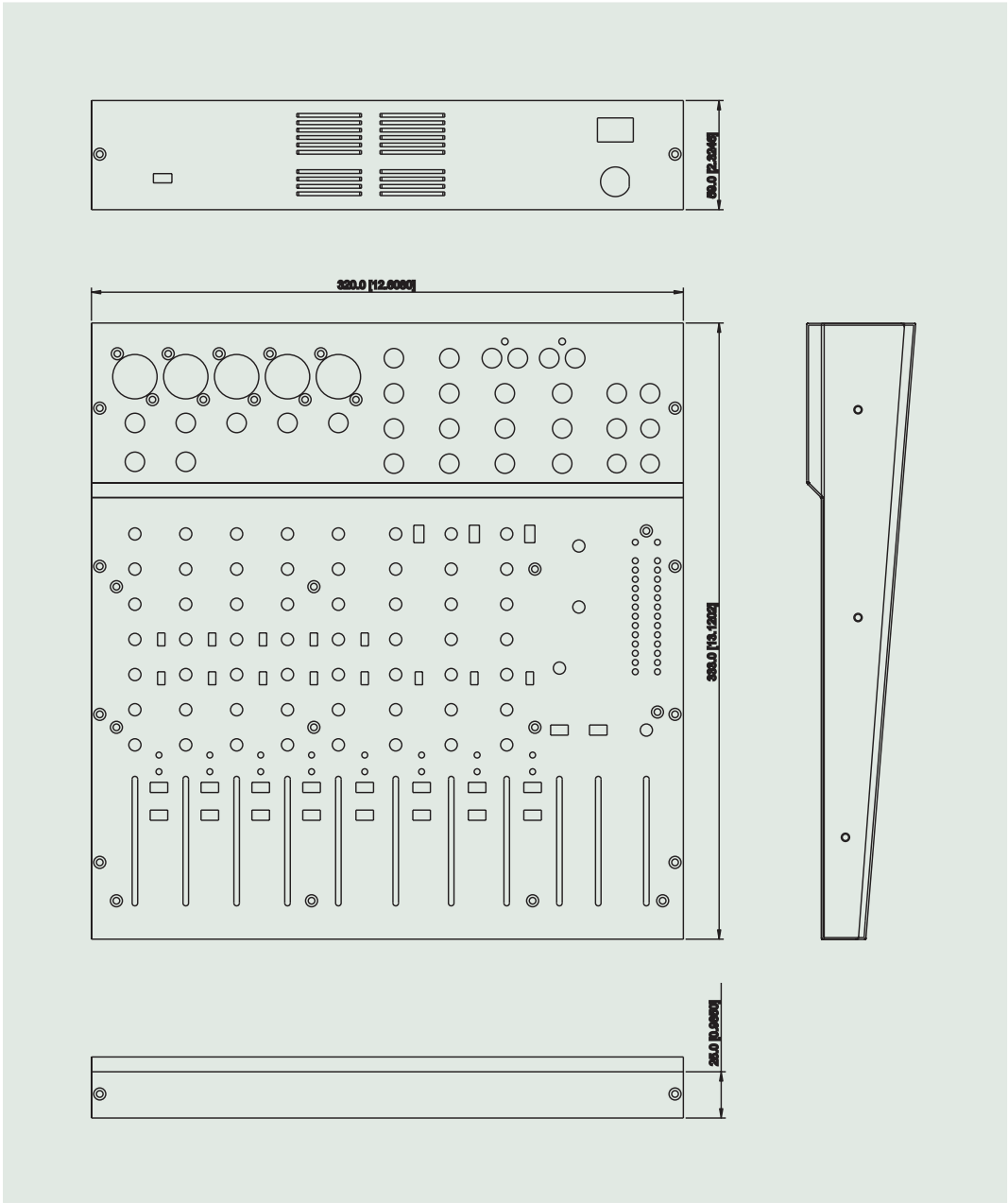


APPLICATION2: SUB MIXING



APPLICATION3: MUSIC CLUB

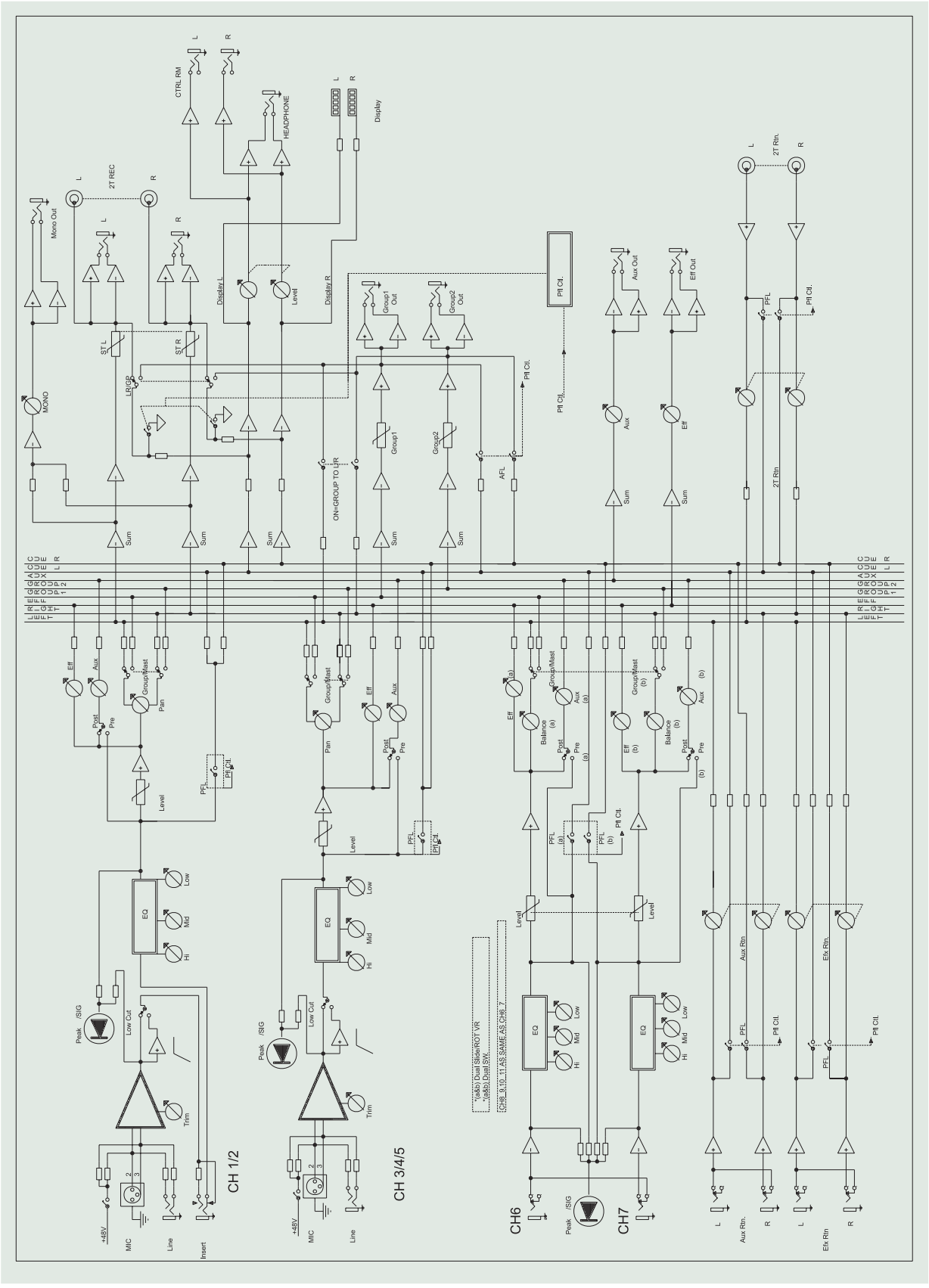




Measurements are shown in mm/inch.

Inputs	
Balanced Mono Mic/Line channels	5
Balanced Stereo Line Channels	3
2T input	1
Aux returns	2 st.
Outputs	
Main L/R stereo	TRS, Bal.
Aux sends	2, TRS, Bal.
Submaster	2, TRS, Bal.
Phones	1
Control RM	TRS, Unbal.
Channel Strips	**8**
Aux controls	2
Pan/Balance control	Yes
Channel Mute	Yes/by assign sw.
Channel solo with metering	Yes
LED indicators	-20/solo, Peak
Bus Assign Switches	Group + ST
Volume Controls	60mm
Inserts	2
Master Section	
Aux send masters	2
Stereo Aux Returns	2
Global Aux Return solo	Yes
Phones/Control RM Level Control	Yes
Faders	Main, Group, Mono
Metering	**ST**
Number of channels	2
Segments	13
+48VDC Phantom Power Supply	Master
Noise (20Hz to 20KHz bandwidth, line inputs to main L/R outputs, all channels assigned, panned L/R)	
Master @ unity, channel fader down.	-89dBu
Master @ unity, channel fader @ unity.	-86dBu
S/N ration, ref to +4	>90dB
THD(Any output, 1KHz @ +14dBu, 20Hz to 20KHz, channel	<0.005%
CMRR (1 KHz @ -60dBu, Gain at maximum)	80dB
Crosstalk (1KHz @ 0dBu, 20Hz to 20KHz bandwidth, channel in to main L/R outputs)	
Channel fader down, other channels at unity	<-86dB
Channel muted, other channels at unity	<-85dB
Frequency Response (Mic input to any output)	
20Hz ~ 60KHz	+0/-1dB
20Hz ~ 100KHz	+0/-3dB
Maximum Levels	
Mic preamp input	+10dBu
All other inputs	+22dBu
Balanced outputs	+28dBu
Un-balanced outputs	+22dBu
Impedances	
Mic preamp input	2 KΩ
All other inputs (except inserts)	10 KΩ
RCA 2T outputs	1.1K ohm
All other outputs	100 ohm
Equalization	3-band, +/-15dB
Low EQ	80Hz
Mid EQ	2.5KHz
Hi EQ	12KHz
Low cut filter	75Hz(-18dB/oct)
Microphone Preamp E.I.N.(150 ohm terminated, max gain)	<129.5dBm
Power Consumption	<25 watts
Weight	4.5 kg
Dimensions(WxHxD)	320x59x333mm(12.6"x2.32"x13.11")

Due to continually improving product performance, specifications are subject to change without notice.


CTRL RM
HEADPHONE
Display
Mono Out
2T REC
2T Rtn.
Display L
Display R
Level
Group1 Out
Group2 Out
Aux Out
Eff Out
ST L
ST R
LR/GP
MONO
Group1
Group2
AFL
ON-GROUP TO L/R
Pfl Ctl.
PFL
Aux
Eff
Sum
LEFT GROUP L R
LEFT FX 1 2
LEFT AUX 1 2
Group/Mast
Pan
Post
Pre
Balance
EQ
Low
Mid
Hi
Peak /SIG
Low Cut
Trim
+48V
MIC
Line
Insert
CH 1/2
CH 3/4/5
CH6
CH7
Aux Rtn.
Efx Rtn.
1(4&b) Dual Slide/ROT VR
(4&b) Dual SW
CH8, 9, 10, 11 AS SAME AS CH6, 7

APPENDIX 1: SUGGESTED READING

Phonic recommends the following books for those interested in advanced audio engineering and sound system operation:

- Sound System Engineering by Don and Carolyn Davis, Focal Press, ISBN: 0-240-80305-1
- Sound Reinforcement Handbook by Gary D. Davis, Hal Leonard Publishing Corporation, ISBN: 0-88188-900-8
- Audio System Design and Installation by Philip Giddings, Focal Press, ISBN: 0-240-80286-1
- Practical Recording Techniques by Bruce and Jenny Bartlett, Focal Press, ISBN: 0-240-80306-X
- Modern Recording Techniques by Huber & Runstein, Focal Press, ISBN: 0-240-80308-6
- Sound Advice – The Musician's Guide to the Recording Studio by Wayne Wadham, Schirmer Books, ISBN: 0-02-872694-4
- Professional Microphone Techniques by David Mills Huber, Philip Williams. Hal Leonard Publishing Corporation, ISBN: 0-87288-685-9
- Anatomy of a Home Studio: How Everything Really Works, from Microphones to Midi by Scott Wilkinson, Steve Oppenheimer, Mark Isham. Mix Books, ISBN: 091837121X
- Live Sound Reinforcement: A Comprehensive Guide to P.A. and Music Reinforcement Systems and Technology by Scott Hunter Stark. Mix Books, ISBN: 0918371074
- Audiopro Home Recording Course Vol 1: A Comprehensive Multimedia Audio Recording Text by Bill Gibson. Mix Books, ISBN: 0918371104
- Audiopro Home Recording Course Vol. 2: A Comprehensive Multimedia Audio Recording Text by Bill Gibson. Mix Books, ISBN: 0918371201

APPENDIX 2: GLOSSARY

AFL (After-Fader-Listening)

Acronym for after fader listen, also known as post-fader solo function.

AUX (Auxiliary send)

A console output comprising of mixed signals from channels and groups derived independently of the main stereo/group mixes. The feeds to the mix are typically implemented on rotary level controls.

Balanced

An audio connection method, which balances the signal between 2 wires and a screen which carries no signal. Interference is picked up equally by the 2 wires, but out of phase; resulting in cancellation of the interference signal.

Clipping

Severe distortion onset in the signal path, usually happens when the peak signal voltage is being limited by the circuit's power supply voltage.

dB (decibel)

A ratio of quantities measured in similar terms using a logarithmic scale.

Equalizer (EQ)

A devise that allows the cutting or boosting of frequencies of selected bands in the signal path.

Fader

Audio level control. The term also refers to a straight-line slide control rather than a rotary control.

Feedback

A howling sound caused by placing a microphone too close to a loudspeaker driven from its amplified signal.

Frequency response

The variation of frequencies in a device.

Gain/input sensitivity

The variation in signal level.

Highpass filter

A filter that rejects low frequencies.

Insert

A break point for the connection of an external device in the signal path. For example, signal processors or another mixer.

Pan

Or panorama; controls levels sent to left and right outputs.

Peaking

A bandpass response of an equalizer response curve affecting only one band of frequencies.

PFL (Pre-fader-Listening)

A function that allows the operator to monitor the pre-fade signal on an independent channel of the main mix.

Phase

A term used to describe the relationship between 2 signals. Signals that reinforce each other are In-phase; signals that cancel each other are out-of phase.

Polarity

The positive and negative poles of an audio connection. Usually connections are made with positive to positive and negative to negative.

Post-fader

The point in the signal path after the monitor or master fader and therefore affected by fader position.

Pre-fader

The point in the signal path before the monitor or master fader and therefore not affected by fader position.

Roll off

A fall in gain at the extremes of the frequency response.

Shelving

An equalizer response which affects all frequencies above or below the break frequency.

Stereo return

An input specifically for the receiving of other external devices.

Transient

A temporary rise in the signal level.

Unbalanced

A single wire audio connection method that uses a screen as a signal return. This method does not provide the noise immunity of a balanced input.

+48V

the phantom power supply for channel mic inputs, for condenser microphones and active DI boxes.

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